

REMARKS

Claims 1-21 are pending.

Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 3,303,233 ("Jones") on the ground that the alkylbenzenes produced by Jones's invention are similar to the modified alkylbenzene compositions in claims 1-15 and 17-21 since the alkylbenzenes disclosed in Jones are produced using normal paraffins separated on molecular sieves, dehydrogenating, and reacting with benzene under typical operating conditions, and since the alkylbenzene sulfonates produced by Jones's invention are similar to the modified alkylbenzene sulfonate composition in claim 16 since the alkylbenzene sulfonates produced by Jones's invention are produced by sulfonating alkylbenzenes under typical operating conditions.

This rejection should be withdrawn because claims 1-21 meet the requirements of 35 U.S.C. 102(b) for the reason that Jones does not teach or suggest a modified alkylbenzene composition or a modified alkylbenzene sulfonate composition produced by a process wherein the phenyl-alkanes have a selectivity to internal quaternary phenyl-alkanes of less than 10. Claims 1-21 also meet the requirements of 35 U.S.C. 102(b) for the reason that Jones does not teach or suggest a selectivity to 2-phenyl-alkanes of from about 40 to about 100. See c) of claim 1, c) of claim 16, and e) of claim 17. See also page 3, line 26 to page 4, line 12. Jones teaches that one of his objects is to produce a detergent containing an alkylaryl group in which the alkyl side chain attached to the aromatic nucleus has a relatively straight chain structure capable of biological degradation. See col. 1, lines 14-37; col. 2, lines 21-65; col. 3, line 51 to col. 4, line 68; col. 6, lines 22-45; col. 11, line 71 to col. 12, line 65. Jones does not produce the modified alkylbenzenes (MAB) recited in claims 1-21, but instead produces linear alkylbenzenes (LAB) while also describing branched alkylbenzenes (BAB) for purposes of comparison. When teaching LAB, Jones teaches separating normal paraffins from a hydrocarbon mixture containing non-normal paraffins, dehydrogenating the normal paraffins to form normal monoolefins under controlled conditions, and alkylating benzene with the normal monoolefins. See col. 4, line 20 to col. 8, line 60; and the preparation of the first sample of alkylate in Example I, i.e., col. 9, line 21 to col. 11, line 13. When describing BAB, Jones does so in order to contrast the poorer biodegradability of detergents made using BAB from that of detergents made

with LAB. See col. 2, lines 23-53 and col. 11, line 71 to col. 12, line 65. Jones forms BAB by alkylating benzene with propylene tetramer, which consists of a mixture of olefins of the branched chain structure. See the preparation of the second sample of alkylate in Example I, i.e., col. 11, line 14-24. Characteristics of LAB are described at page 4, line 20 to page 5, line 7, characteristics of BAB are described at page 2, line 17 to page 4, line 12, and characteristics of MAB are described at page 5, line 8 to page 6, line 25. For all of these reasons, claims 1-21 meet the requirements of 35 U.S.C. §102(b).

Claims 1-21 are rejected, in the alternative, under 35 U.S.C. 103(a) as being obvious over Jones on the ground that any differences between the alkylbenzene product taught by Jones and the modified alkylbenzene compositions in claims 1-15 and 17-21, or any differences between the alkylbenzene sulfonates taught by Jones and the modified alkylbenzene sulfonate composition in claim 16, would have been obvious to one of the ordinary skill in the art as a routine modification of the product.

This rejection should be withdrawn because claims 1-21 meet the requirements of 35 U.S.C. 103(a) for the reason that Jones does not suggest to a person of ordinary skill in the art the modified alkylbenzene and modified alkylbenzene compositions made by the processes claimed in claims 1-21, for two reasons.

First, a person of ordinary skill in the art, having read Jones, would not be motivated to modify Jones to produce a product having a selectivity to internal quaternary phenyl-alkanes of less than 10 and a selectivity to 2-phenyl-alkanes of from about 40 to about 100, since Jones repeatedly teaches that his desired alkylates have a straight chain nuclear alkyl substituent or a branched chain alkyl group containing two branches each of straight chain structure, depending on the point of attachment of the aryl group to the linear alkyl chain. See col. 4, lines 52-68 and col. 3, line 51 to col. 4, line 19. In short, Jones motivates a person of ordinary skill in the art to produce LAB, not MAB.

Second, instead of motivating a person of ordinary skill in the art to form BAB, much less MAB, Jones's focus is on performing the olefin-forming step under controlled conditions that minimize the isomerization of the normal olefins to branched olefins and thus maximizes the production of LAB. See col. 4, lines 20-32. Jones does this by converting the normal paraffins to

normal olefins using halogenation-dehalogenation methods, which avoid the problems with paraffin and olefin isomerization by the prior art thermal or catalytic dehydrogenation steps. See col. 6, lines 21-45. These halogenation-dehalogenation methods comprise halogenating the normal paraffins to form monohalogenated normal paraffins, dehydrohalogenating the normal monohalogenated paraffins to form normal monoolefins and hydrogen halide, and oxidizing the hydrogen halide to reform halogen for the halogenation reaction and water. See col. 6, line 45 to col. 8, line 3; col. 10, lines 18-57; and independent claims 1 and 4, which teach monohalogenating the straight chain paraffin and dehydrohalogenating the halogenated paraffin within claimed temperature ranges.

For these reasons, Jones does not render obvious to a person of ordinary skill in the art the modified alkylbenzene compositions in claims 1-15 and 17-21 or the modified alkylbenzene sulfonate composition in claim 16, and therefore the rejection of claims 1-21 under 35 U.S.C. 103(a) should be withdrawn.

In view of the foregoing remarks, the subject application is now believed to be in a condition for an allowance of claims 1-21 and such action is respectfully requested.

Respectfully submitted,

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